ORIGINAL ARTICLE

Investigating the Presence of Polycyclic Aromatic Hydrocarbons in Doogh

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Abstract

Background and purpose: Polycyclic aromatic hydrocarbons (PAHs) are one of the most common environmental pollutants that are proven to be carcinogenic and mutagenic. Doogh, is a widely consumed fermented yoghurt drink in Iran. The aim of this study was to determine the presence and concentration of PAHs in different brands of Doogh in Tehran, Iran.

Materials and methods: In this study, we synthesized multi-walled magnetic carbon nanotubes using iron oxide. Then synthesized magnetic nanotubes were used for absorption and extraction of PAHs from Doogh matrix. After sample preparation, concentrations of all PAHs were measured by GC-MS.

Materials and methods: In this study, we synthesized multi-walled magnetic carbon nanotubes using iron oxide. Then synthesized magnetic nanotubes were used for absorption and extraction of PAHs from 24 samples of Doogh matrix (3 high-consumption brands randomly selected in all four seasons and two dates) and one sample as a control. After sample preparation, concentrations of all 16 PAHs were measured by GC-MS.

Conclusion: In this study, the concentrations of PAHs in different brands of Doogh were lower than standard levels, so it would create no harmful effect to the consumers.

Keywords: Polycyclic Aromatic Hydrocarbons, Doogh, multi-walled carbon nanotube, magnetic, GC-MS

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